

FUJH 18.479
09/815,551In the Claims:

1. (presently amended). A method ~~for~~of allocating an aggregation bandwidth in a network system; said network system including an comprising an inter-site connection network ~~which has~~ of a plurality of nodes respectively having packet switches, and a plurality of user sites each respectively having at least one of; ~~which has~~ a host or a network connected to said plurality of nodes through access lines, ~~said the~~ method comprising the steps of:

when a first user site of interest among said plurality of user sites is to be connected to the ~~other site~~ a second user site among said plurality of user sites through said inter-site connection network, said first user site being connected to said inter-site connection network via a first access line, said second user site being connected to said inter-site connection network via a second access line,

setting a path request bandwidth as the least of bandwidth of said first access line and bandwidth of said second access line ~~determining a bandwidth of an access line connecting said user site of interest to said network as a minimum bandwidth;~~

calculating ~~a necessary and sufficient~~ a new aggregation bandwidth for of a path interconnecting said first user site of interest ~~and to the other~~ said second user site based on bandwidth parameters, said bandwidth parameters comprising said path request bandwidth, a first aggregation bandwidth of an existing path connecting of said first user site and said second user site as a connecting user site, and access line bandwidth of said connecting user site; and

allocating [[a]] said new aggregation bandwidth to said plurality of nodes ~~based on said~~ calculated bandwidth.

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2. (presently amended) The method for allocating network aggregation bandwidth according to claim 1,

wherein, among a plurality of paths for interconnecting said plurality of user sites, if it is possible to aggregate a plurality of paths possible to aggregate exist, said plurality of paths are aggregated with respect to a user site within said plurality of user sites having an the least access line bandwidth among access line bandwidths corresponding to each of said plurality of user sites allocatable bandwidth smaller than the other user site.

3. (presently amended). The method for allocating network aggregation bandwidth according to claim 1,

wherein, when a virtual site having a host or a gateway to ~~other~~ another network used by either of: said first or said second the user site is connected to said inter-site connection network, bandwidth allocation is set-based on said virtual site regarded as at least one of: said first and said second the user site sites.

4. (presently amended). The method for allocating network aggregation bandwidth according to claim 1,

wherein when said at least one of first and second user sites ~~said user site becomes not-existent nonexistent~~, a path related thereto is deleted, and whether the aggregation path for other paths having the same aggregation path ID as said deleted path has been constructed at the destination site or the originating site is investigated; and if the aggregation path has not been constructed, a new aggregation relation is established among paths having either the same destination site or the same originating site; else if the aggregation path has been constructed at

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either the destination site or originating site having a larger site bandwidth, then the existing aggregation relation is canceled to obtain a new aggregation bandwidth based on a site having a smaller bandwidth.

5. (presently amended). The method for allocating network aggregation bandwidth according to claim 1,

wherein, when ~~[[an]]~~ either of: said first or said second access line bandwidth is ~~changed~~ either increased or decreased producing to make an aggregation bandwidth different from either the destination or originating bandwidth, or produce that results in an inverted interrelation between in the bandwidth bandwidths corresponding to said originating and said destination site. ~~size between said destination bandwidth and said originating bandwidth, an aggregation path and~~ said an aggregation bandwidth are re-calculated newly obtained.

6. (presently amended). The method for allocating network aggregation bandwidth according to claim 1, further comprising the steps of:

in a server provided in said inter-site connection network,

calculating an the aggregation path and the said new aggregation bandwidth; and

when bandwidth is available for reservation ~~bandwidth resource possible to reserve exists~~

in said inter-site connection network, transmitting to each transit node ~~an~~ indication information of an aggregation path included in a bandwidth allocation message to be transmitted in forward or backward direction.

7. (presently amended). The method for allocating network aggregation bandwidth according to claim 6, ~~further~~ further comprising the step of:

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in the server, specifying a transit node or transit nodes through which said bandwidth allocation message is transferred.

8. (presently amended). A network system comprising:

an inter-site connection network including a plurality of nodes each having a packet switch, and

a plurality of user sites ~~each including~~ comprising at least one of: a host and [[or]] a network, being connected to each node through an access line,

wherein when a first user site of interest among said plurality of user sites is connected to ~~the other site~~ a second user site among said plurality of user sites through said inter-site connection network, said first user site being connected to said inter-site connection network via a first access line, said second user site being connected to said inter-site connection network via a second access line, a bandwidth of an access line connecting said user site of interest to said network is regarded as a minimum bandwidth, the smaller amount of bandwidth of said first access line and said second access line is regarded as a path request bandwidth;

~~and based on a calculation result of a necessary and sufficient bandwidth for interconnecting said user site of interest to the other user site;~~ a new aggregation bandwidth of a path interconnecting said first user site of interest to said second user site based on bandwidth parameters, said bandwidth parameters including said path request bandwidth, the aggregation bandwidth of an existing path having one of said first user site and said second user site as a connecting user site, and the access line bandwidth of said connecting user site; and

said new aggregation bandwidth ~~a bandwidth~~ is allocated to said plurality of nodes.

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9. (presently amended). The network system according to claim 8, further comprising:
a server, which is provided in said inter-site connection network, for calculating the aggregation path and the new aggregation bandwidth, and for when bandwidth resource possible to reserve exists in said inter-site connection network, transmitting to each transit node an indication information of an aggregation path included in a bandwidth allocation message to be transmitted in forward or backward direction.